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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,510	10/14/2003	Todd M. Steinmetz	GP-304171	3533

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EXAMINER

LOUIS JACQUES, JACQUES H

ART UNIT PAPER NUMBER

3661

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/686,510	Applicant(s) STEINMETZ ET AL.	
	Examiner Jacques H. Louis-Jacques	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 11-12 of copending Application No. 10/779,558. Although the conflicting claims are not identical, they are not patentably distinct from each other because the mere recitation of the claimed limitations in different formats does not make the claims of the present application patentably distinct over the claims of the abovementioned copending applications. The "neutral mode operation" of the copending application is not needed to carry out the shift control of the present application. It is well settled that the omission of an element, and its function is an obvious expedient if the remaining elements perform the same function as before. *In re Karlson*, 136 USPQ 184 (CCPA 1963). Also note *Ex parte Rainu*, 168 USPQ 375 (Bd. App. 1969). Omission of a reference element of step whose function is not needed would be obvious to one of ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tabata et al [5,833,570].

Tabata et al discloses a vehicle transmission shift control apparatus wherein torque of motor connected to automatic transmission is controlled to reduce shift shock of transmission. Tabata et al discloses an electro-mechanical transmission including an input member and an output member, first and second torque transfer devices, at least one motor. See figure 1, column 8. Tabata et al also discloses for controlling the shifting of transmission through a plurality of modes (i.e., a multi-mode transmission) (columns 3-4), wherein a first mode operation is established by simultaneously applying a first torque transfer device and releasing a second torque transfer device; a second mode operation is established by simultaneously releasing first torque transfer device released and applying second torque transfer device, and a fixed-ratio operation is established by simultaneously applying first and second torque transfer devices applied wherein the transmission input member is mechanically coupled to the transmission output member through a fixed ratio. See columns 13-14. According to Tabata et al, there is provided a method for controlling shifting a multi-mode transmission by applying an oncoming torque transfer device while controlling slip speed across the oncoming torque transfer

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device to substantially zero by adjusting motor torque and thereafter releasing an offgoing torque transfer device while controlling slip speed across the offgoing torque transfer device to substantially zero by adjusting motor torque. See columns 15-16, 20-22. According also to Tabata et al, controlling slip speed across the oncoming torque transfer device to substantially zero by adjusting motor torque terminates when the oncoming torque transfer device is fully applied and when the offgoing torque transfer device is fully released. See columns 23-25, 27-28.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al [5,833,570] in view of Schmidt [5,931,757].

Tabata et al discloses the limitations as set forth above. Tabata et al discloses at least one motor and a generator (motor/generator). However, Tabata et al does not particularly disclose "two electrical motors". Schmidt, on the other hand, discloses a two-mode, compound-split, electro-mechanical transmission utilizing an input member for receiving power from an engine, and an output member for delivering power from the transmission. Schmidt discloses first and second motor/generators that are operatively connected to an

energy storage device through a control for interchanging electrical power among the storage means, the first motor/generator and the second motor/generator. Tabata et al also discloses that the planetary gear arrangements as well as the two motor/generators are disposed coaxially with the planetary gear arrangements located radially inwardly of the motor/generators. The planetary gear arrangements provide two modes, or gear trains, that are selectively available, as by the utilization of only two torque transfer devices, to transmit power from the engine and/or the motor/generators to the output member of the transmission, depending upon the desired, or required, power and/or speed to be delivered by the output shaft. The transmission incorporates at least one mechanical point in its first mode of operation and at least two mechanical points in its second mode of operation. See columns 1 and 2. Thus, it would have been obvious to one skilled in the art at the time of the invention to be motivated to modify the vehicle transmission shift control apparatus of Tabata et al by incorporating the two (plurality) of electrical motors from the two-mode, compound-split electro-mechanical vehicular transmission of Schmidt because such modification would provide a shifting control with improved accuracy and stability while, according to Schmidt, providing a system that operating at high efficiencies over a wide variety of operating conditions.

Allowable Subject Matter

7. Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The prior art does not particularly teach, in combination, that applying the oncoming torque transfer device is initiated when a predicted period needed for full torque transfer device engagement is substantially equivalent to a predicted period for oncoming torque transfer device slip speed to reach zero.

Response to Amendments & Arguments

8. The amendments filed along with the arguments on October 19, 2005 have been entered and carefully considered by the examiner.

Newly added claim 21 has been entered.

Applicant's arguments have been fully considered but are not persuasive.

The claims were rejected under the doctrine of obviousness-type double patenting. Applicant indicated, "Applicants are prepared to timely execute a terminal disclaimer to overcome the examiner's rejection." However, as of this date, the terminal disclaimer has not been received. Accordingly, the obviousness-type double patenting rejection is maintained. Once the terminal disclaimer is received and approved, such rejection will be withdrawn.

Applicant argued that "there is no description of thereafter releasing an offgoing torque transfer device while controlling slip across the offgoing torque transfer device to substantially zero by adjusting motor torque, as claimed in claim 1 of the instant invention."

Applicant added that "Tabata et al neither teaches nor describes a mode of operation analogous to the second mode of operation of the instant invention, wherein there is a

simultaneous first torque transfer device released and second torque transfer device applied, with the engine 'on'."

The examiner respectfully disagrees.

First, it is noted that Applicant referred to the condition "with the engine is 'on'". This limitation is not positively recited in the claims. None of the claims recites the condition "with the engine is on". Therefore, Applicant argued a limitation that is not recited in the claims.

Contrary to Applicant's assertion, Tabata et al discloses a mode of operation corresponding to the recited mode of operation where here is a simultaneous first torque transfer device released and second torque transfer device applied. In fact, Tabata et al discloses controlling or adjusting a motor torque while controlling slip speed across an applied oncoming torque transfer device and a released offgoing torque transfer device to substantially zero. Tabata et al discloses at least two torque transfer devices, such C1 and C2. See figures 1 and 6. In figures 3 and 8, in particular, Tabata et al discloses a mode of operation, where a first torque transfer device (e.g., C1 or CE1) is applied while a second torque transfer device (e.g., C2 or CE2) is released. It should be noted that Tabata also discloses another mode of operation where a first torque transfer device (e.g., C1 or CE1) is released while a second torque transfer device (e.g., C2 or CE2) is applied. Tabata et al discloses yet another mode of operation where a first torque transfer device (e.g., C1 or CE1) is applied while a second torque transfer device (e.g., C2 or CE2) is applied. The respective torque transfer device is applied (engaged) or released is represented by "on"

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or “off”, respectively. See also column 3, 5, column 13, line 66 to column 14, column 15, lines 1-5 and 17-18.

As to the newly added claim 21, Tabata et al discloses at least one motor and a generator (motor/generator). However, Tabata et al does not particularly disclose “two electrical motors” as recited in new claim 21. The limitation of “two electrical motors” is not novel. In fact, Schmidt [5931757] discloses such feature. Schmidt discloses a two-mode, compound-split, electro-mechanical transmission utilizing an input member for receiving power from an engine, and an output member for delivering power from the transmission. Schmidt discloses first and second motor/generators that are operatively connected to an energy storage device through a control for interchanging electrical power among the storage means, the first motor/generator and the second motor/generator. Tabata et al also discloses that the planetary gear arrangements as well as the two motor/generators are disposed coaxially with the planetary gear arrangements located radially inwardly of the motor/generators. The planetary gear arrangements provide two modes, or gear trains, that are selectively available, as by the utilization of only two torque transfer devices, to transmit power from the engine and/or the motor/generators to the output member of the transmission, depending upon the desired, or required, power and/or speed to be delivered by the output shaft. The transmission incorporates at least one mechanical point in its first mode of operation and at least two mechanical points in its second mode of operation. See columns 1 and 2.

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However, upon reconsideration, it is found that the prior art does not particularly disclose the limitations as recited in claim 5 (6-10). Accordingly, claims 5-10 are being objected to.

Both US Patents 5,833,570 and 5,931,757 were provided along with the prior office action.

The new ground of rejection is necessitated by the amendment (addition of new claim 21). Accordingly, this office action is made final.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques H. Louis-Jacques whose telephone number is 571-272-6962. The examiner can normally be reached on M-Th 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacques H Louis-Jacques
Primary Examiner
Art Unit 3661

/jlj

Jacques H. Louis-Jacques
JACQUES H. LOUIS-JACQUES
PRIMARY EXAMINER